

It's About Time... for Solutions

Protecting Brown Trout

Efforts to avoid and minimize impacts to the brown trout population in Paint Branch have been ongoing throughout the planning process and SHA is committed to protecting the high quality of this resource. SHA has coordinated extensively with regulatory agencies and scientists to determine appropriate methods to minimize impacts. For instance, bridges have been planned on all major stream crossings to avoid negative direct impacts to trout habitat. Also, during construction, temporary sediment impacts will be minimized through stringent control measures that exceed state requirements, on-site environmental monitors, and adherence to stream closure requirements. SHA also will relocate fish from work areas as necessary.



Managing Noise, Air Quality, and Hazardous Waste Impacts

The ICC Study Team continues to work closely with federal and State resource agencies as well as local communities to identify potential noise, air quality, and hazardous materials impacts, which have a potential impact on both natural and human resources (see *Focus on Human Environment fact sheet for more information*).

For up-to-date information on environmental enhancement activities, go to the ICC website at www.iccstudy.org and also see *Focus on Environmental Stewardship and Focus on the Human Environment fact sheets*.

Going Beyond the Basics – with Environmental Stewardship Features

Beyond standard environmental avoidance, minimization, and mitigation measures, the ICC Study Team is examining restoration efforts and enhancements for their potential to improve community, cultural, and natural resources within the study area. These efforts have been defined as "Environmental Stewardship features" and, for the first time, included as a distinct response to the project's Purpose and Need.

An Environmental Stewardship features package has been developed for each ICC build alternative to reflect unique needs of the area where the alternative would be located. Examples of Environmental Stewardship features include:

- Retrofitting poorly or non-functioning stormwater management facilities;
- Improving water quality and stream habitat;
- Increasing wetland and forest acreage;
- Renovating degraded historic structures; and
- Improving park facilities.

Next Steps and More Information

The ICC Study Team will continue to evaluate potential impacts and develop avoidance, minimization, and mitigation options – working closely with federal, state, and local agencies and the public. The Team also will continue to work with local communities to select Environmental Stewardship features for inclusion in project plans.

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Intercounty Connector Study



"This has been an incredible process as we have worked aggressively with federal, state, and local agencies to develop a plan designed not only to address impacts but also to enhance the environment while addressing our transportation needs."
– Secretary Robert L. Flanagan
on the ICC Study process.



Focus On... the Natural Environment

Key Natural Resource Protection Elements

The State Highway Administration (SHA) is committed to avoiding and minimizing impacts of the ICC build alternatives on the State's natural resources. The agency has worked closely with federal, state, and local agencies to develop project alternatives that, to the greatest extent possible, avoid and minimize environmental impacts, and only as a last resort, mitigate for unavoidable impacts. And, going beyond more routine measures, SHA is committed to including unprecedented Environmental Stewardship features in each of the ICC build alternatives. These are restoration efforts and enhancements identified in conjunction with local communities that would improve community, cultural, and natural resources within the study area and help local governments realize their own environmental protection and enhancement goals at an accelerated pace.

Examples of planned environmentally-sensitive design elements under the two primary build alternatives include:

- Incorporating longer bridges into roadway design to reduce ground level impacts and protect streams, forested areas, wetlands, and floodplains;
- Lowering the roadway to minimize noise and visual impacts to communities in sensitive locations;
- Developing and deploying Erosion and Sediment Control Plans to limit impacts both during and after construction;
- Incorporating state-of-the-art stormwater management techniques into project design;
- Reducing typical roadway section widths near sensitive resources;
- Limiting forest clearing; and
- Creating animal crossings to reduce the impacts on wildlife.

Environmentally-Responsible Design Features

The ICC Study Team has worked to identify and evaluate each and every opportunity to limit impacts to the State's natural resources. This includes plans to reduce the footprint of the roadway by using steeper side slopes and reduced median widths in environmentally-sensitive areas. It also includes lowering the roadway to minimize noise and visual impacts in sensitive locations and incorporating longer bridges to protect streams, forested areas, wetlands, and floodplains.



Robert L. Ehrlich, Jr.
Governor of Maryland

The proposed Intercounty Connector represents a major transportation improvement in an already highly developed area. Also, because the majority of major stream valleys in the study area are oriented in a north-south direction, it is not possible to fully avoid these resources when developing an east-west roadway. Addressing these challenges requires extraordinary efforts to fully consider the current and future condition of environmental resources and the potential impact of an ICC.

The Study Team also has worked closely with federal, state, and local agencies as well as the public to identify context-sensitive design features that promote sensitivity to the surrounding environment and maintain or improve visual aesthetics.

Environmentally-Sensitive Construction Techniques

The SHA has been recognized nationally in the past for protecting the environment during construction. SHA is committed to applying this same high standard to construction of an ICC. For example, the agency would utilize state-of-the-art sediment and erosion control procedures and apply redundant controls in sensitive areas. SHA also would reduce construction-related impacts to stream channels by using equipment fitted with low-pressure tires or tracks

in sensitive areas, and trestles for construction access roads through wetlands.

Exceeding State Water Quality Regulatory Requirements

If a build alternative is selected, state-of-the-art stormwater management and other methods will be implemented to avoid and minimize both direct and

indirect impacts on receiving water resources. Techniques to be deployed typically exceed State stormwater management regulations.

For instance, Maryland Department of the Environment (MDE) requirements call for capture and treatment of 90% of all stormwater from rainfall events. SHA intends to capture and treat 95% of all rainfall events. In addition, thermal impacts (i.e., unintentional warming of water resources) to coldwater fishery streams will be minimized by diverting runoff to other watersheds and by using linear stormwater management techniques.

Groundwater Impacts

The anticipated groundwater impacts of constructing an ICC are limited to localized impacts not expected to change the overall watershed hydrology. In general, the effect of adding a roadway on deep groundwater reserves is indistinguishable from the overall effects of suburban to dense urban development. Groundwater quality impacts from either corridor under study would likely be negligible because roadway contaminants would be of low concentrations and retained in vegetation incorporated into stormwater facilities.

Surface Water Impacts

Preliminary roadway designs have incorporated avoidance and minimization measures to reduce direct impacts to stream channels, including:

- Spanning streams and floodplains with bridges instead of culverts;
- Building longer bridge spans and less fill;
- Using culverts that consider the natural size and channel materials of streams; and
- Realigning the roadway to avoid crossing as many stream channels.

To the extent that mitigation is required, many stream restoration sites have been identified for potential use and are currently being reviewed for technical feasibility.

Protecting Waters of the U.S., Including Wetlands

Considerable effort to avoid and minimize direct impacts to wetlands and other waters has taken place throughout the planning process and will continue if the project moves forward to more detailed design stages. Examples of efforts to reduce impacts include alignment shifts and replacement of culverts with bridges wherever practicable.

Impacts to wetlands and other waters will be regulated under any federal Clean Water Act Section 404 permit for the project and the Maryland Nontidal Wetlands Protection Act. Beyond efforts to avoid and minimize impacts, mitigation (in the form of replacement) will be required for unavoidable impacts. Mitigation planning, following a watershed-based approach, has been coordinated with the US Army Corps of Engineers, Maryland Department of the Environment, and other resource agencies.



Avoiding Floodplain Impacts

A more detailed floodplain impact analysis will be completed in the Final Environmental Impact Statement (FEIS), but to the greatest extent possible, longitudinal crossings have been avoided because they would result in more floodplain filling. In addition, many of the proposed bridge lengths are well in excess of minimum hydraulic openings required and will allow vegetation and habitat to be maintained.



Preserving Forests and Vegetation

Efforts to minimize forest impacts include avoiding priority forest and parkland and constructing retaining walls to reduce outcrops where appropriate. Forest loss will be in compliance with the Maryland Reforestation Law, which requires every reasonable effort to minimize cutting or clearing of trees. Mitigation requirements include one-to-one replacement of any forested areas cleared during construction. Replacement trees would be placed on publicly-owned land of equivalent size.

Ongoing efforts include coordinating with Montgomery and Prince George's counties and with the Maryland National Capital Park and Planning Commission (M-NCPPC) as well as with the Department of Natural Resources (DNR).

Safeguarding Farmland Soils and Properties

During the final design phase, efforts will be made to reduce impacts to farmland properties and soils. The majority of farmlands identified, however, are zoned or proposed for residential or commercial development.

Protecting Rare, Threatened, and Endangered Species

Rare, threatened, and endangered species are tracked by both the federal government and the State. Each has their own list of protected species.

Federally-listed

Surveys have been conducted and no federally-listed plant or animal species are known to be present in the study area. While there is an active bald eagle's nest in the Rocky Gorge Dam area, approximately one-half mile north of the closest alignment under consideration, distances over a quarter mile are considered by regulatory agencies as out of range for concern. SHA also has extensive experience protecting the bald eagle, as evidenced by ongoing construction of the Woodrow Wilson Bridge where there is an active and flourishing bald eagle nest near the project site.



State-listed

There are no State-listed animal species known to be within the study area. Field reviews of State plant species considered endangered and threatened have been ongoing to determine potential impacts of proposed build alternatives. While efforts are ongoing to consider potential alignment shifts to avoid or minimize impacts, shifting the alignment would in most cases result in impacts to other important natural resources, including wetlands, other waters, and 100-year floodplains.

Avoidance efforts have included coordination with DNR, with emphasis on the trailing stichwort, rough-leaved aster, and halberd-leaved greenbrier. Even though there are no direct impacts to featherbells, measures are ongoing to avoid or minimize indirect impacts to featherbells habitat. SHA will continue working with environmental agencies to develop a mitigation plan.

Creating Wildlife Passages and Avoiding Impacts

The ICC Study Team is evaluating a variety of techniques to allow deer and other wildlife to safely cross beneath roadways. The Study Team is working with local, state, and federal agencies to determine the best locations and methods to maintain passage for deer as well as small mammals, amphibians, and fish. Measures committed to or under study include:

- Deer passages and fencing to reduce human-deer interactions;
- Use of one-way wildlife gates, fences, and landscaping that make areas unattractive to deer; and
- Sizing of culverts to accommodate wildlife passage where appropriate.

Minor alignment shifts to avoid or minimize impacts to sensitive

habitats for birds, such as forest interior, would be considered during the final design phases of the project. Mitigation of impacts to forest habitat will be accomplished through reforestation, with an emphasis on creating large, contiguous blocks of forest important as forest interior habitat.

